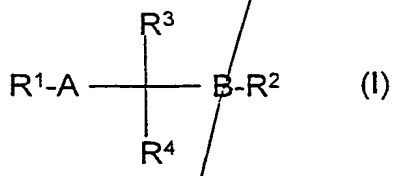
CLAIMS

1. A chemical compound represented by the general formula I



(I)

and a pharmaceutically acceptable salt or an oxide or a hydrate thereof,

wherein,

A and B, independently of each another represent
a group of the formula -(CH2)n-, of the formula -(CH2)n-Y- (in either direction), or of the formula -(CH2)n-Y-(CH2)m-;
in which formulas
n and m, independently of each another, represent 0, 1, 2, 3 or 4, and
Y represents O, S, or NR'", wherein R'" represents hydrogen or alkyl;

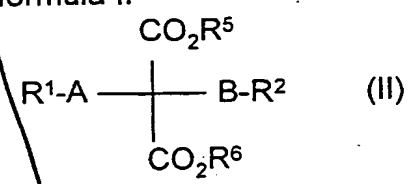
R1 and R2, independently of each another, represent
alkyl, alkenyl, alkynyl, cycloalkyl, amino, trihalogenmethyl, nitro, cyano, or phenyl, or a group of the formula -OR', -SR', -R'OR", -R'SR", -C(O)R', -C(S)R', -C(O)OR', -C(S)OR', -C(O)SR', -C(S)SR', -C(O)NR'(OR"), -C(S)NR'(OR"), -C(O)NR'(SR"), -C(S)NR'(SR"), -CH(CN)2, -C(O)NR'R", -C(S)NR'R", -CH[C(O)R']2, -CH[C(S)R']2, -CH[C(O)OR']2, -CH[C(S)OR']2, -CH[C(O)SR']2, -CH[C(S)SR']2, CH2OR', CH2SR', -NR'C(O)R", or -OC(O)R';
an unsaturated or a partially or completely saturated mono- or polycyclic group, a mono- or poly-heterocyclic group, an aralkyl group, or a hetero-alkyl group, which mono- or polycyclic groups or aralkyl or hetero-alkyl groups may optionally be substituted one or more times with substituents selected from the group consisting of halogen, trihalogenmethyl, alkyl, alkenyl, alkynyl, amino, nitro, cyano, or amido, or a group of the formula -R', -OR', -SR', -R'OR", -R'SR", -C(O)R', -C(S)R', -C(O)OR', -C(S)OR', -C(O)SR', or -C(S)SR', or a phenyl or a phenoxy group, which phenyl or phenoxy groups may optionally be substituted on or more times with substituents selected from the group consisting of halogen, trihalogenmethyl, alkyl, alkenyl, alkynyl, amino, nitro, cyano, or amido, or a group of the formula -R', -OR', -SR', -R'OR", -R'SR", -C(O)R', -C(S)R', -C(O)OR', -C(S)OR', -C(O)SR', -C(S)SR', -NR'C(O)R", or -OC(O)R';
wherein

R' and R'', independently of each another, represent hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, alkoxy or phenyl, or a group of the formula NR'''R'''', wherein R''' and R'''', independently of each another, represent hydrogen or alkyl;

R3 and R4, independently of each another, represent
alkyl, alkenyl, alkynyl, cycloalkyl, amino, trihalogenmethyl, nitro, cyano, or phenyl, or a group of the formula -OR', -SR', -R'OR'', -R'SR'', -C(O)R', -C(S)R', -C(O)OR', -C(S)OR', -C(O)SR', -C(S)SR', -C(O)NR'(OR''), -C(S)NR'(OR''), -C(O)NR'(SR''), -C(S)NR'(SR''), -CH(CN)2, -C(O)NR'R'', -C(S)NR'R'', -CH[C(O)R']2, -CH[C(S)R']2, -CH[C(O)OR']2, -CH[C(S)OR']2, -CH[C(O)SR']2, -CH[C(S)SR']2, CH2OR', CH2SR', -NR'C(O)R'', or -OC(O)R';
wherein
R' and R'', independently of each another, represent hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, alkoxy or phenyl, or a group of the formula NR'''R'''', wherein R''' and R'''', independently of each another, represent hydrogen or alkyl;

or R3 and R4 together form an unsaturated or a partially or completely saturated mono- or polycyclic group, or a mono- or poly-heterocyclic group, which mono- or polycyclic groups may optionally be substituted one or more times with substituents selected from the group consisting of halogen, trihalogenmethyl, alkyl, alkenyl, alkynyl, amino, nitro, cyano, or amido, or a group of the formula -R', -OR', -SR', -R'OR'', -R'SR'', -C(O)R', -C(S)R', -C(O)OR', -C(S)OR', -C(O)SR', or -C(S)SR', or a phenyl or a phenoxy group, which phenyl or phenoxy groups may optionally be substituted on or more times with substituents selected from the group consisting of halogen, trihalogenmethyl, alkyl, alkenyl, alkynyl, amino, nitro, cyano, or amido, or a group of the formula -R', -OR', -SR', -R'OR'', -R'SR'', -C(O)R', -C(S)R', -C(O)OR', -C(S)OR', -C(O)SR', -C(S)SR', -NR'C(O)R'', or -OC(O)R';
wherein
R' and R'', independently of each another, represent hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, alkoxy or phenyl, or a group of the formula NR'''R'''', wherein R''' and R'''', independently of each another, represent hydrogen or alkyl.

2. The chemical compound according to claim 1, which is a malonic acid ester derivative of the general formula II



(II)

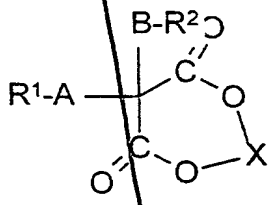
and a pharmaceutically acceptable salt or an oxide or a hydrate thereof,

wherein,

A, B, R1 and R2 are as defined above, and

R5 and R6, independently of each another, represent hydrogen, alkyl, cycloalkyl, or a group of the formula NR'''R'''', wherein R''' and R'''', independently of each another, represent hydrogen or alkyl.

3. The malonic acid ester derivative of claim 2, in which R5 and R6 together form a heterocyclic 6-9 membered ring to give a diester derivative of the general formula III



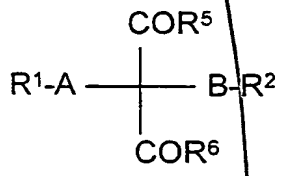
(III)

and a pharmaceutically acceptable salt or an oxide or a hydrate thereof,
wherein,

A, B, R1 and R2 are as defined above, and

X represents a saturated or unsaturated carbon chain of the formula -(CH2)n-, wherein n is 1, 2, 3 or 4; of the formula -CH2-CH=CH-CH2-; of the formula -CH=CH-CH2-CH2- (in either direction); or of the formula -CH2-C°C-CH2-.

4. The chemical compound according to claim 1, which is an oxo derivative of the general formula IV



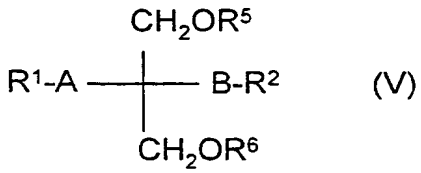
(IV)

and a pharmaceutically acceptable salt or an oxide or a hydrate thereof,
wherein,

A, B, R1 and R2 are as defined above, and

R5 and R6, independently of each another, represent hydrogen, alkyl, cycloalkyl, or a group of the formula NR'''R'''', wherein R''' and R'''', independently of each another, represent hydrogen or alkyl.

5. The chemical compound according to claim 1, which is an ether derivative of the general formula V



(V)

and a pharmaceutically acceptable salt or an oxide or a hydrate thereof, wherein,

A, B, R1 and R2 are as defined above, and

R5 and R6, independently of each another, represent hydrogen, alkyl, cycloalkyl, or a group of the formula NR'''R'''', wherein R''' and R'''', independently of each another, represent hydrogen or alkyl.

6. The chemical compound according to any of claims 1-5, wherein R1 and R2 independently of each another represents a hydroxy group; an alkyl group; an alkoxy group; a group of the formula -OC(O)R' wherein R' is hydrogen or alkyl; a group of the formula -NHC(O)R'', wherein R'' is hydrogen or alkyl; a phenyl or a benzyl group, which phenyl and benzyl groups may optionally be substituted one or more times with substituent selected from the group consisting of alkyl, alkoxy, halogen, CF3, CN, amino, nitro, or a group of the formula -NHC(O)R'', wherein R'' is hydrogen, alkyl or phenyl; a 5- or 6-membered mono- or poly-heterocyclic group, which heterocyclic group may optionally be substituted one or more times with substituent selected from the group consisting of halogen, CF3, CN, amino or nitro; a heteroalkyl group, wherein the heterocyclic group a mono-heterocyclic group, which heterocyclic group may optionally be substituted one or more times with substituent selected from the group consisting of halogen, CF3, CN, amino or nitro.

7. The chemical compound according to claim 6, wherein R1 and R2 independently of each another represents phenyl; 2,3 or 4-alkylphenyl; 2,3 or 4-alkylbenzyl; 2,3 or 4-alkoxyphenyl; 2,3 or 4-alkoxybenzyl; 2,3 or 4-chlorophenyl; 2,3 or 4-chlorobenzyl; 2,3 or 4-flourophenyl; 2,3 or 4-bromobenzyl; 2,3 or 4-bromophenyl; 2,3 or 4-chlorobenzyl; 2,3 or 4-aminophenyl; 2,3 or 4-aminobenzyl; 2,3 or 4-nitrophenyl; 2,3 or 4-nitrobenzyl;

2,3 or 4-trifluoromethylphenyl; 2,3 or 4-benzoylamino-phenyl; 2,3 or 4-benzoylamino-benzyl; 2,3 or 4-acetylamino-phenyl; 2,3 or 4-acetylamino-benzyl; 2,3 or 4-trifluoromethylbenzyl; 2-nitro-4-trifluoromethyl-5-chlorophenyl, or 2-nitro-4-trifluoromethyl-5-chlorobenzyl.

8. The chemical compound according to claim 6, wherein the a mono-heterocyclic group is an aromatic heterocyclic monocyclic group, in particular 1,3,2,4- or 1,3,4,5-dioxadiazolyl, dioxatriazinyl, dioxazinyl, 1,2,3-, 1,2,4-, 1,3,2- or 1,3,4-dioxazolyl, 1,3,2,4- or 1,3,4,5-dithiadiazolyl, dithiatriazinyl, dithiazinyl, 1,2,3-dithiazolyl, furanyl, furazanyl, imidazolyl, isoimidazolyl, 2-isoimidazolyl, isoindazolyl, isothiazolyl, isoxazolyl, 1,2,3-, 1,2,4-, 1,2,5- or 1,3,4-oxadiazolyl, oxatetrazinyl, oxatriazinyl, 1,2,3,4- or 1,2,3,5-oxatriazolyl, oxazolyl, pyrazinyl, pyrazolyl, pyridazinyl, pyridinyl, pyrimidinyl, pyrrolyl (azolyl), 1,2,3,4- or 2,1,3,4-tetrazolyl, thiadiazolyl, thiazolyl, thienyl, 1,2,3-, 1,2,4- or 1,3,5-triazinyl, or 1,2,3-, 1,2,4-, 2,1,3- or 4,1,2-triazolyl.

9. The chemical compound according to claim 8, wherein the mono-heterocyclic group is 2- or 3-furanyl, 2-, 4- or 5-imidazolyl, 3-, 4- or 5-isoxazolyl, 2-, 3- or 4-pyridinyl, or 2- or 3-thienyl.

10. The chemical compound according to claim 9, wherein the mono-heterocyclic group is 4-(3,5-dimethyl)-isoxazolyl.

11. The chemical compound according to claim 6, wherein the mono-heterocyclic group is a partially or completely saturated heterocyclic monocyclic group, in particular 1,3,5,6,2-dioxadiazinyl, 1,2,3,4,5-, 1,2,3,5,4-dioxadiazolyl, dioxanyl, 1,3-dioxolyl, 1,3,5,6,2-dithiadiazinyl, 1,2,3,4,5- or 1,2,3,5,4-dithiadiazolyl, 2-isoimidazolyl, isopyrrolyl, isotetrazolyl, 1,2,3- or 1,2,4-isotriazolyl, morpholinyl, oxadiazinyl, 1,2,4-, 1,2,6-, 1,3,2-, 1,3,6- or 1,4,2-oxazinyl, piperazinyl, piperidinyl, 1,2-, 1,3- or 1,4-pyranyl, or pyrrolidinyl.

12. The chemical compound according to claim 6, wherein the poly-heterocyclic group is an aromatic heterocyclic polycyclic group, in particular acridinyl, benzimidazolyl, 1,2- or 1,4-benzisothiazinyl, 1,2- or 1,4-benzisoxazinyl, benzisoxazole, benzothiazolyl, benzofuranyl, isobenzofuranyl, 2,3-benzopyronyl, 1,2,3,4-benzotetrazinyl, 1,3,4,6-benzotetrazolyl, benzothiazolyl, 1,2,3- or 1,2,4-benzotriazinyl, 1,2,3- or 2,1,3-benzotriazolyl, benzoxadiazolyl, benzoxazolyl, carbazolyl, cinnolinyl, coumarinyl, indazolyl, indolyl, isoindolyl, indolizinyl, purinyl, phenazinyl, phenothiazinyl, phenanthridinyl, phthalazinyl, pteridinyl, quinolinyl, quinoxalinyl, isoquinolinyl, quinazolinyl, quinolizinyl, or xanthrenyl.

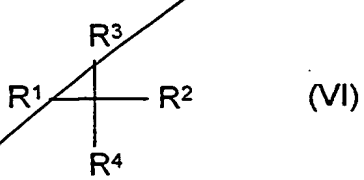
13. The chemical compound according to claim 6, wherein the poly-heterocyclic group is an unsaturated or a partially or completely saturated heterocyclic polycyclic group, in particular 1,3-benzisodiazolyl, benzomorpholinyl, 1,2- or 1,4-benzopyranyl, 1,3,2-, 1,4,2-, 2,3,1- or 3,1,4-benzoxazinyl, chromanyl, 4H-chromenyl, or indanyl.

14. The chemical compound according to claim 6, wherein the heteroalkyl group is furfuryl, or picolyl.

15. The chemical compound according to claim 1, wherein the chemical compound is
Diethyl 2-(4-fluorophenyl)-2-(3-picolyl)malonate;
Diethyl 2-(4-nitrophenyl)-2-(2-picolyl)malonate;
Diethyl 2-(4-nitrophenyl)-2-(4-picolyl)malonate;
Diethyl 2-phenyl-2-(3-picolyl)malonate;
Diethyl 2-(5-chloro-2-nitro-4-(trifluoromethyl)phenyl)-2-(3-picolyl)malonate;
Diethyl 2-benzyl-2-(3-picolyl)malonate;
Diethyl 2-(4-nitrophenyl)-2-[(benzotriazol-1-yl)methyl]malonate;
Diethyl 2-(2-thienyl)-2-(2-picolyl)malonate;
Diethyl 2-(4-(acetylamino)phenyl)-2-(2-picolyl)malonate;
Diethyl 2-(4-(benzoylamino)phenyl)-2-(2-picolyl)malonate;
2-(4-nitrophenyl)-2-(2-picolyl)malononitril;
Diethyl 2-(2-thienyl)-2-(4-nitrophenyl)malonate;
Diethyl 2-(2-thienyl)-2-(3,5-dimethylisoxazol-4-ylmethyl)malonate;
Diethyl 2-(2-thienyl)-2-(2-chlorobenzyl)malonate;
Dimethyl 2-methoxy-2-(2-picolyl)malonate;
Diethyl 2-acetamido-2-(2-picolyl)malonate;
Diethyl 2-acetamido-2-(2-chlorobenzyl)malonate;
Diethyl 2-acetamido-2-(3-chlorobenzyl)malonate;
Diethyl 2-(4-nitrophenyl)-2-(3,5-dimethylisoxazol-4-ylmethyl)malonate;
Diethyl 2-(4-nitrophenyl)-2-(benzotriazol-1-ylmethyl)malonate;
Diethyl 2-(p-tolyl)-2-(2-picolyl)malonate;
Diethyl 2-(2-thienyl)-2-(2-picolyl)malonate;
Diethyl 2-(2-chlorophenyl)-2-(2-picolyl)malonate;
Diethyl 2-(2-bromobenzyl)-2-(4-nitrophenyl)malonate;
Di-t-butyl 2-(4-nitrophenyl)-2-(2-picolyl)malonate;
Diethyl 2-(4-fluorophenyl)-2-(2-picolyl)malonate;
Diethyl 2-(4-methoxy)-2-(2-picolyl)malonate;
Diethyl 2-(4-nitrophenyl)malonate;
Diethyl 2-(5-chloro-2-nitro-4-trifluoromethylphenyl)malonate;

Diethyl 2,2-bis(2-picolyl)malonate;
diethyl 2-(2-picolyl)malonate;
Di-t-butyl 2-(4-nitrophenyl)malonate;
Diethyl 2-phenyl-2-(acetoxymethyl)malonate;
2-Chlorophenylacetonitrile;
2-(2-Chlorophenyl)butyronitrile;
2-(2-Chlorophenyl)-2-ethylbutyronitrile;
2-(3-Phenoxyphenyl)butyronitrile;
2-Ethyl-2-(3-phenoxyphenyl)butyronitrile;
Ethyl 2-(4'-chlorophenyl))-2,2-diallyl-acetate;
Ethyl 1-(4'-chlorophenyl)cyclopent-3-ene-1-carboxylate;
Ethyl 1-(4-chlorophenyl)cyclopentane-1-carboxylate;
1-(4-Chlorophenyl)-1-(3-methyl-5-oxadiazolyl)cyclopentane;
N,N-Dimethyl 1-(4-chlorophenyl)cyclopentane-1-carboxamide;
N,N-Diethyl 1-(4-chlorophenyl)cyclopentane-1-carboxamide;
N-Phenyl 1-(4-chlorophenyl)cyclopentane-1-carboxamide;
Diethyl 2-phenyl-2-(hydroxymethyl)malonate;
Dicyclopropan(4-chlorophenyl)carbinol;
O-(2-picolyl) dicyclopropan(4-chlorophenyl)carbinol;
Diethyl 2-(2-thienyl)malonate;
Diethyl 2-(4-aminophenyl)-2-(2-picolyl)malonate;
2-(4-nitrophenyl)malononitril;
2-Cyano-2-(4-nitrophenyl)-3-(2-pyridyl)propionamide;
Diethyl 2-(4-(benzoylamino)phenyl)-2-(2-picolyl)malonate;
Diethyl 2-(4-(acetylamino)phenyl)-2-(2-picolyl)malonate;
Diethyl 2-(2-chlorophenyl)malonate;
Diethyl 2-(4-fluorophenyl)malonate;
Diethyl 2-(4-methoxyphenyl)malonate;
Diethyl 2-bromobenzylmalonate; or
Diethyl 4-chlorobenzylidenemalonate;
or a pharmaceutically acceptable salt or an oxide or a hydrate thereof.

16. The chemical compound according to claim 1, represented by the general formula VI



(VI)

and a pharmaceutically acceptable salt or an oxide or a hydrate thereof,

wherein,

R1 and R2, independently of each another, represent an unsaturated or a partially or completely saturated mono- or polycyclic group, a mono- or poly-heterocyclic group, an aralkyl group, or a hetero-alkyl group, which mono- or polycyclic groups or aralkyl or hetero-alkyl groups may optionally be substituted one or more times with substituents selected from the group consisting of halogen, trihalogenmethyl, alkyl, alkenyl, alkynyl, amino, nitro, cyano, or amido, or a group of the formula -R', -OR', -SR', -C(O)R', -C(S)R', -C(O)OR', -C(S)OR', -C(O)SR', or -C(S)SR', or a phenyl or a phenoxy group, which phenyl or phenoxy groups may optionally be substituted on or more times with substituents selected from the group consisting of halogen, trihalogenmethyl, alkyl, alkenyl, alkynyl, amino, nitro, cyano, or amido, or a group of the formula -R', -OR', -SR', -C(O)R', -C(S)R', -C(O)OR', -C(S)OR', -C(O)SR', -C(S)SR', -NR'C(O)R', or -OC(O)R';

wherein

R' represents hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, alkoxy or phenyl, or a group of the formula NR'''R'''', wherein R''' and R'''', independently of each another, represent hydrogen or alkyl; and

R3 and R4, independently of each another, represent
alkyl, alkenyl, alkynyl, cycloalkyl, amino, trihalogenmethyl, nitro, cyano, or phenyl, or a group of the formula -OR', -SR', -R'OR'', -R'SR'', -C(O)R', -C(S)R', -C(O)OR', -C(S)OR', -C(O)SR', -C(S)SR', -C(O)NR'(OR''), -C(S)NR'(OR''), -C(O)NR'(SR''), -C(S)NR'(SR''), -CH(CN)2, -C(O)NR'R'', -C(S)NR'R'', -CH[C(O)R']2, -CH[C(S)R']2, -CH[C(O)OR']2, -CH[C(S)OR']2, -CH[C(O)SR']2, -CH[C(S)SR']2, CH2OR', CH2SR', -NR'C(O)R'', or -OC(O)R';

wherein

R' and R'', independently of each another, represent hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, alkoxy or phenyl, or a group of the formula NR'''R'''', wherein R''' and R'''', independently of each another, represent hydrogen or alkyl;

or R3 and R4 together form an unsaturated or a partially or completely saturated mono- or polycyclic group, or a mono- or poly-heterocyclic group, which mono- or polycyclic groups may optionally be substituted one or more times with substituents selected from the group consisting of halogen, trihalogenmethyl, alkyl, alkenyl, alkynyl, amino, nitro, cyano, or amido, or a group of the formula -R', -OR', -SR', -R'OR'', -R'SR'', -C(O)R', -C(S)R', -C(O)OR', -C(S)OR', -C(O)SR', or -C(S)SR', or a phenyl or a phenoxy group, which phenyl or phenoxy groups may optionally be substituted on or more times with substituents selected from the group consisting of halogen,

trihalogenmethyl, alkyl, alkenyl, alkynyl, amino, nitro, cyano, or amido, or a group of the formula -R', -OR', -SR', -R'OR", -R'SR", -C(O)R', -C(S)R', -C(O)OR', -C(S)OR', -C(O)SR', or -C(S)SR';
wherein
R' and R", independently of each another, represent hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl or alkoxy, or a group of the formula NR'"R"", wherein R'" and R"", independently of each another, represent hydrogen or alkyl.

17. The chemical compound according to claim 16, wherein

R1 represents a phenyl group, which may optionally be substituted one or more times with substituents selected from the group consisting of
halogen, trihalogenmethyl, alkyl, alkenyl, alkynyl, amino, nitro, cyano, or amido, or a group of the formula -R', -OR', -SR', -R'OR", -R'SR", -C(O)R', -C(S)R', -C(O)OR', -C(S)OR', -C(O)SR', or -C(S)SR', or
a phenyl or a phenoxy group, which phenyl or phenoxy groups may optionally be substituted on or more times with substituents selected from the group consisting of halogen, trihalogenmethyl, alkyl, alkenyl, alkynyl, amino, nitro, cyano, or amido, or a group of the formula -R', -OR', -SR', -R'OR", -R'SR", -C(O)R', -C(S)R', -C(O)OR', -C(S)OR', -C(O)SR', or -C(S)SR';
wherein R' and R", independently of each another, represent hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl or alkoxy, or a group of the formula NR'"R"", wherein R'" and R"", independently of each another, represent hydrogen or alkyl;

R2 represents alkyl, alkenyl, alkynyl, cycloalkyl, amino, trihalogenmethyl, nitro, cyano, or phenyl, or a group of the formula -OR', -SR', -R'OR", -R'SR", -C(O)R', -C(S)R', -C(O)OR', -C(S)OR', -C(O)SR', -C(S)SR', -C(O)NR'(OR"), -C(S)NR'(OR"), -C(O)NR'(SR"), -C(S)NR'(SR"), -CH(CN)2, -C(O)NR'R", -C(S)NR'R", -CH[C(O)R']2, -CH[C(S)R']2, -CH[C(O)OR']2, -CH[C(S)OR']2, -CH[C(O)SR']2, -CH[C(S)SR']2, CH2OR', CH2SR', or -NR'C(O)R";
wherein R' and R", independently of each another, represent hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl or alkoxy, or a group of the formula NR'"R"", wherein R'" and R"", independently of each another, represent hydrogen or alkyl;

R3 and R4, independent of each another, represent alkyl, alkenyl, alkynyl, cycloalkyl, amino, trihalogenmethyl, nitro, cyano, or phenyl, or a group of the formula -OR', -SR', -R'OR", -R'SR", -C(O)R', -C(S)R', -C(O)OR', -C(S)OR', -C(O)SR', -C(S)SR', -C(O)NR'(OR"), -C(S)NR'(OR"), -C(O)NR'(SR"), -C(S)NR'(SR"), -CH(CN)2, -C(O)NR'R", -C(S)NR'R", -CH[C(O)R']2, -CH[C(S)R']2, -CH[C(O)OR']2,

-CH[C(S)OR']2, -CH[C(O)SR']2, -CH[C(S)SR']2, CH2OR', CH2SR', -NR'C(O)R'', or -OC(O)R';
wherein
R' and R'', independently of each another, represent hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl or alkoxy, or a group of the formula NR'''R'''', wherein R''' and R'''', independently of each another, represent hydrogen or alkyl;

or R3 and R4 together form an unsaturated or a partially or completely saturated mono- or polycyclic group, or a mono- or poly-heterocyclic group, which mono- or polycyclic groups may optionally be substituted one or more times with substituents selected from the group consisting of halogen, trihalogenmethyl, alkyl, alkenyl, alkynyl, amino, nitro, cyano, or amido, or a group of the formula -R', -OR', -SR', -R'OR'', -R'SR'', -C(O)R', -C(S)R', -C(O)OR', -C(S)OR', -C(O)SR', or -C(S)SR', or a phenyl or a phenoxy group, which phenyl or phenoxy groups may optionally be substituted on or more times with substituents selected from the group consisting of halogen, trihalogenmethyl, alkyl, alkenyl, alkynyl, amino, nitro, cyano, or amido, or a group of the formula -R', -OR', -SR', -R'OR'', -R'SR'', -C(O)R', -C(S)R', -C(O)OR', -C(S)OR', -C(O)SR', or -C(S)SR';
wherein
R' and R'', independently of each another, represent hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl or alkoxy, or a group of the formula NR'''R'''', wherein R''' and R'''', independently of each another, represent hydrogen or alkyl.

18. The chemical compound according to claim 16, wherein

R1 represents a phenyl group, which may optionally be substituted one or more times with substituents selected from the group consisting of halogen, trihalogenmethyl, alkyl, amino, nitro, cyano, or amido, or a group of the formula -R', -OR', -R'OR'', -C(O)R', -C(O)OR', or
a phenyl or a phenoxy group, which phenyl or phenoxy groups may optionally be substituted on or more times with substituents selected from the group consisting of halogen, trihalogenmethyl, alkyl, amino, nitro, cyano, or amido, or a group of the formula -R', -OR', -R'OR'', -C(O)R', or -C(O)OR';
wherein R' and R'', independently of each another, represent hydrogen, or alkyl;

R2 represents alkyl, cycloalkyl, amino, trihalogenmethyl, nitro, or cyano, or a group of the formula -OR', -R'OR'', -C(O)R', -C(O)OR', or CH2OR';
wherein R' and R'', independently of each another, represent hydrogen, alkyl, cycloalkyl or alkoxy;

R3 and R4, independent of each another, represent alkyl, cycloalkyl, amino, trihalogenmethyl, nitro, cyano, or phenyl, or a group of the formula -OR', -R'OR'', -C(O)R', -C(O)OR', or CH2OR';
wherein
R' and R'', independently of each another, represent hydrogen, alkyl, cycloalkyl or alkoxy.

19. The chemical compound according to claim 16, wherein

R1 represents
a phenyl group, which may optionally be substituted one or more times with substituents selected from the group consisting of halogen, trihalogenmethyl, alkyl, amino, nitro, cyano, or amido, or a group of the formula -R', -OR', -R'OR'', -C(O)R', -C(O)OR', or
a phenyl or a phenoxy group, which phenyl or phenoxy groups may optionally be substituted on or more times with substituents selected from the group consisting of halogen, trihalogenmethyl, alkyl, amino, nitro, cyano, or amido, or a group of the formula -R', -OR', -R'OR'', -C(O)R', or -C(O)OR';
wherein R' and R'', independently of each another, represent hydrogen, or alkyl;

R2 represents alkyl, cycloalkyl, amino, trihalogenmethyl, nitro, or cyano, or a group of the formula -OR', -R'OR'', -C(O)R', -C(O)OR', or CH2OR';
wherein R' and R'', independently of each another, represent hydrogen, alkyl, cycloalkyl or alkoxy;

R3 and R4 together form an unsaturated or a partially or completely saturated mono- or polycyclic group, which mono- or polycyclic groups may optionally be substituted one or more times with substituents selected from the group consisting of halogen, trihalogenmethyl, alkyl, amino, nitro, cyano, or amido, or a group of the formula -R', -OR', -R'OR'', -C(O)R', -C(O)OR';
wherein
R' and R'', independently of each another, represent hydrogen, alkyl, cycloalkyl or alkoxy.

20. The chemical compound according to claim 16, which is
2-(3-Phenoxyphenyl)butyronitrile;
2-(2-Chlorophenyl)butyronitrile;
Dicyclopropan(4-chlorophenyl)carbinol;

Ethyl 1-(4-chlorophenyl)cyclopentane-1-carboxylate; or
1-(4-Chlorophenyl)-1-(3-methyl-5-oxadiazolyl)cyclopentane;
or a pharmaceutically acceptable salt or an oxide or a hydrate thereof.

21. A pharmaceutical composition comprising a therapeutically effective amount of a chemical compound represented by the general formula I of claims 1-20, or a pharmaceutically-acceptable addition salt thereof, together with at least one pharmaceutically-acceptable carrier or diluent, for the treatment or alleviation of a disease or a disorder or a condition responsive to modulation of SKCa, IKCa and/or BKCa channels.

22. The pharmaceutical composition according to claim 21, for the treatment or alleviation of respiratory diseases such as asthma, cystic fibrosis, chronic obstructive pulmonary disease and rhinorrhea, convulsions, vascular spasms, coronary artery spasms, renal disorders, polycystic kidney disease, bladder spasms, urinary incontinence, bladder outflow obstruction, irritable bowel syndrome, gastrointestinal dysfunction, secretory diarrhoea, ischaemia, cerebral ischaemia, ischaemic hearth disease, angina pectoris, coronary hearth disease, traumatic brain injury, psychosis, anxiety, depression, dementia, memory and attention deficits, Alzheimer's disease, dysmenorrhea, narcolepsy, Reynaud's disease, intermittent claudication, Sjorgren's syndrome, migraine, arrhythmia, hypertension, absence seizures, myotonic muscle dystrophia, xerostomi, diabetes type II, hyperinsulinemia, premature labour, baldness, cancer, and immune suppression.

23. Use of a chemical compound represented by the general formula I of claims 1-20, or a pharmaceutically-acceptable addition salt thereof, for the manufacture of a pharmaceutical composition for the treatment or alleviation of a disease or a disorder or a condition of a mammal, including a human, which disease, disorder or condition is responsive to modulation of SKCa, IKCa and/or BKCa channels.

24. A method of treatment or alleviation of a disease or a disorder or a condition of a living animal body, including a human, which disorder, disease or condition is responsive to modulation of SKCa, IKCa and/or BKCa channels, comprising the step of administering to such a living animal body, including a human, in need thereof a therapeutically effective amount of a chemical compound represented by the general formula I of claims 1-20, or a pharmaceutically-acceptable addition salt thereof.

25. The method of claim 24 for the treatment or alleviation of respiratory diseases such as asthma, cystic fibrosis, chronic obstructive pulmonary disease and rhinorrhea,

convulsions, vascular spasms, coronary artery spasms, renal disorders, polycystic kidney disease, bladder spasms, urinary incontinence, bladder outflow obstruction, irritable bowel syndrome, gastrointestinal dysfunction, secretory diarrhoea, ischaemia, cerebral ischaemia, ischaemic hearth disease, angina pectoris, coronary hearth disease, traumatic brain injury, psychosis, anxiety, depression, dementia, memory and attention deficits, Alzheimer's disease, dysmenorrhea, narcolepsy, Reynaud's disease, intermittent claudication, Sjorgren's syndrome, migraine, arrhythmia, hypertension, absence seizures, myotonic muscle dystrophia, xerostomi, diabetes type II, hyperinsulinemia, premature labour, baldness, cancer, and immune suppression.